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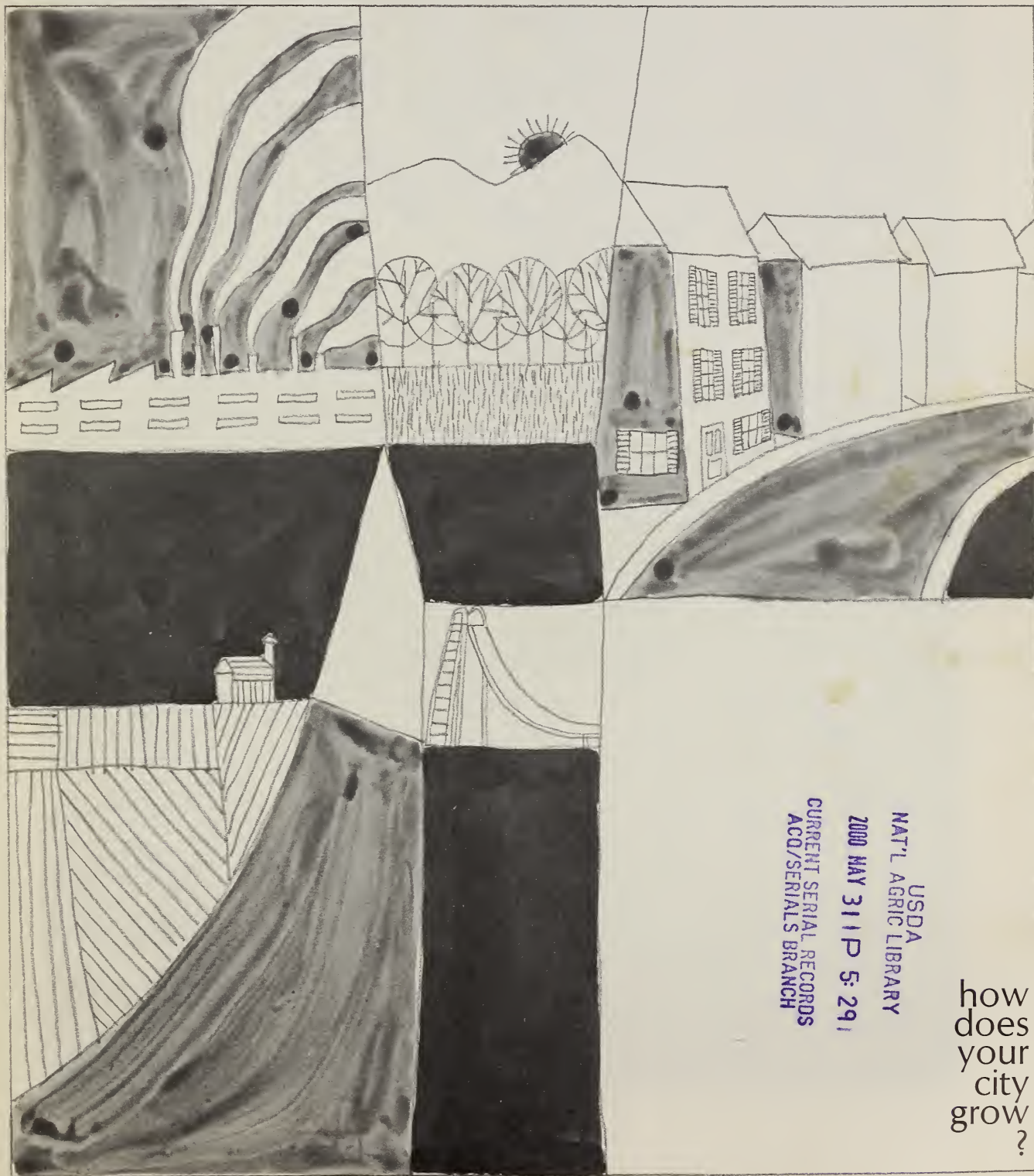
# FARM INDEX

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al the Peripatetic Potato/Cotton Course: The Pace Is Faster  
Our Export Turnstile - Canada/Beef Eaters' Choice

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# ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1966		1967		
			YEAR	MAY	MARCH	APRIL	MAY
Prices:							
Prices received by farmers	1910-14=100	242	266	263	250	245	252
Crops	1910-14=100	223	235	239	224	223	221
Livestock and products	1910-14=100	258	292	284	272	264	279
Prices paid, interest, taxes and wage rates	1910-14=100	293	334	333	340	341	342
Family living items	1910-14=100	286	315	314	318	318	320
Production items	1910-14=100	262	285	283	289	288	289
Parity ratio		83	80	79	74	72	74
Wholesale prices, all commodities	1957-59=100	—	105.9	105.6	105.7	105.3	105.8
Industrial commodities	1957-59=100	—	104.7	104.7	106.0	106.0	106.0
Farm products	1957-59=100	—	105.6	104.5	99.6	97.6	100.5
Processed foods and feeds	1957-59=100	—	113.0	111.8	110.6	110.0	110.7
Consumer price index, all items	1957-59=100	—	113.1	112.6	115.0	115.3	—
Food	1957-59=100	—	114.2	113.5	114.2	113.7	—
Farm Food Market Basket: <sup>1</sup>							
Retail cost	Dollars	983	1,100	1,092	1,078	1,071	—
Farm value	Dollars	388	442	434	411	399	—
Farm-retail spread	Dollars	595	658	658	667	672	—
Farmers' share of retail cost	Per cent	39	40	40	38	37	—
Farm Income:							
Volume of farm marketings	1957-59=100	—	120	90	98	91	93
Cash receipts from farm marketings	Million dollars	32,247	42,879	2,778	2,850	2,679	2,700
Crops	Million dollars	13,766	18,213	773	843	824	700
Livestock and products	Million dollars	18,481	24,666	2,005	2,007	1,855	2,000
Realized gross income <sup>2</sup>	Billion dollars	—	49.5	—	50.0	—	—
Farm production expenses <sup>2</sup>	Billion dollars	—	33.2	—	34.8	—	—
Realized net income <sup>2</sup>	Billion dollars	—	16.3	—	15.2	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,885 <sup>3</sup>	550	552	524	—
Agricultural imports	Million dollars	3,977	4,492 <sup>3</sup>	358	413	363	—
Land Values:							
Average value per acre	1957-59=100	—	150 <sup>4</sup>	—	157 <sup>5</sup>	—	—
Total value of farm real estate	Billion dollars	—	171.1 <sup>4</sup>	—	179.7 <sup>5</sup>	—	—
Gross National Product: <sup>2</sup>							
Consumption <sup>2</sup>	Billion dollars	457.3	739.6	—	763.7	—	—
Investment <sup>2</sup>	Billion dollars	294.2	464.9	—	479.9	—	—
Government expenditures <sup>2</sup>	Billion dollars	68.0	117.0	—	109.3	—	—
Net exports <sup>2</sup>	Billion dollars	92.4	153.0	—	169.1	—	—
	Billion dollars	2.7	4.8	—	5.4	—	—
Income and Spending: <sup>6</sup>							
Personal income, annual rate	Billion dollars	365.3	580.4	573.0	612.7	614.1	616.9
Total retail sales, monthly rate	Million dollars	17,098	25,306	24,475	25,739	25,923	26,069
Retail sales of food group, monthly rate	Million dollars	4,160	5,927	5,931	6,041	5,988	—
Employment and Wages: <sup>6</sup>							
Total civilian employment <sup>7</sup>	Millions	63.9	72.9	72.3	73.7	73.9	73.3
Agricultural <sup>7</sup>	Millions	5.7	4.0	3.9	3.9	3.9	3.7
Rate of unemployment <sup>7</sup>	Per cent	5.8	3.8	3.9	3.6	3.7	3.8
Workweek in manufacturing	Hours	39.8	41.3	41.5	40.4	40.5	40.3
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.71	2.70	2.79	2.80	2.80
Industrial Production: <sup>6</sup>							
Manufacturers' Shipments and Inventories: <sup>6</sup>	1957-59=100	—	156	155	156	156	156
Total shipments, monthly rate	Million dollars	28,745	44,037	44,071	44,866	44,096	—
Total inventories, book value end of month	Million dollars	51,549	77,897	71,103	79,708	80,324	—
Total new orders, monthly rate	Million dollars	28,365	45,182	45,321	43,700	44,043	—

<sup>1</sup> Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. <sup>2</sup> Annual rates seasonally adjusted first quarter. <sup>3</sup> Preliminary. <sup>4</sup> As of March 1, 1966. <sup>5</sup> As of November 1, 1966. <sup>6</sup> Seasonally adjusted. <sup>7</sup> Series revised beginning January 1967, giving data for persons 16 years of age and older.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

# THE AGRICULTURAL OUTLOOK

Farm prices strengthened in May, but for the first five months of the year they averaged over 5½ per cent below the unusually high levels during the same period a year ago. Both crop and livestock products are averaging lower.

Lower crop prices reflect a somewhat weaker foreign demand for several major crops. Exports during the fiscal year ending June 30, 1967, are expected to average only modestly above the \$6.7 billion recorded in fiscal 1965/66. Nevertheless, the outlook for agricultural exports over the long-run indicates further gains to possibly \$8 billion by 1970 and \$10 billion by 1980. Of course, this outlook could be modified by the recent completion of the Kennedy Round agreements.

Livestock prices during the first five months of 1967 averaged nearly 7 per cent below the comparable period a year earlier. Commercial slaughter of both poultry and livestock have averaged about a tenth above a year earlier.

Cash receipts, reflecting the lower prices, averaged nearly 2 per cent below a year earlier during the first five months of 1967. Later this year cash receipts likely will strengthen if farm prices rise as expected.

## Red Meat Output To Rise

Red meat production in 1967 is expected to total moderately above the 32,618-million-pound output of 1966.

The expected increase in 1967 over 1966 primarily reflects larger supplies of pork and beef. However, the number of cattle on feed and farrowing intentions suggest that most of the increase occurred in the first half of the year. By fall, red meat supplies may average about the same as a year earlier.

The rise in domestic meat output as well as an increase in imports this year will likely result in a moderate increase in per capita red meat consumption. Although consumption is likely to average moderately above the 170.5 pounds consumed per capita in 1966, it is not likely to exceed the record of 174.5 pounds consumed in 1964.

Red meat consumption was at a record rate during the first quarter this year when output of all classes, except veal, was above 1966 levels. Per capita consumption for the quarter totaled around 44.6 pounds—up nearly 4 pounds from a year earlier.

## Wheat Supplies Larger Than in 1966/67

Wheat supplies in the 1967/68 marketing year (which began July 1) are expected to total somewhat larger than the 1,848 million bushels available in 1966/67. The wheat crop was estimated at a record 1,550 million bushels in June; carry-over into 1967/68 is put at approximately 400 million bushels.

Domestic disappearance in 1967/68 is likely to be at least as large as the 700 million bushels estimated for 1966/67. If wheat feeding expands further, domestic use could be even larger. Use of wheat for food is expected to be about as large or slightly above 1966/67.

U.S. wheat exports in 1967/68 may range between 700 and 775 million bushels, compared with the 735 million bushels expected in 1966/67. Commercial exports in the current marketing year may not match last year's prospective record, since larger supplies and increased production in some importing countries are currently indicated. However, some increase is expected for exports under the Food for Peace program.

## Record Soybean Carryover Likely

Carryover stocks of soybeans on September 1 are now expected to reach an all-time high—perhaps 2½ to 3 times the 36 million bushels carried over into 1966/67.

Lower processing margins restrained soybean crushings during the first nine months of the 1966/67 marketing year to 413 million bushels—only 1 per cent above a year ago. Crushings for 1966/67 as a whole likely will be slightly higher than the 538-million-bushel crush in 1965/66.

Exports of soybeans through May totaled 206 million bushels—2 million bushels less than a year ago. During June-August, exports may be



slightly above the same months last year. For the entire 1966/67 marketing year, exports may not be much higher than the 251 million bushels of the year before.

### **High-Protein Feeds in Ample Supply**

Supplies of high-protein feeds available during the 1966/67 feeding year (which began October 1) are expected to be near last year's record 17.4 million tons.

Demand for high-protein feeds slackened somewhat during the spring from the strong demand of the fall and winter. During October-April of the current feeding year, 10.4 million tons were fed to livestock and poultry—slightly above the level of a year earlier. The quantity available for feeding during May-September may be near the 7.1 million tons consumed in the last five months of 1965/66.

The number of high-protein consuming animal units to be fed this year is estimated at 158 million—4 per cent higher than in 1965/66 and 8 per cent above the 1960-64 average. The estimated tonnage of high-proteins to be fed this year would give a feeding rate of about 221 pounds per animal unit—4 per cent below last year's record high but about in line with the level of 222 to 225 pounds fed during 1961-64. This would indicate some weakening in demand for high-protein feeds this year, compared with the very strong demand situation in 1965/66. The drop in prices of these feeds during the spring also tends to indicate some weakness in demand.

In May the index of high-protein feed prices was 6 per cent below the level of the year before. With ample supplies of soybean meal and animal protein feeds in prospect for the remainder of the current feeding year, prices of these feeds this summer likely will be more stable than in the summer of 1966.

### **Farm Exports Up in Fiscal 1967**

U.S. agricultural exports totaled an estimated \$6,228 million during the first 11 months of fiscal 1967. This was 2 per cent above the \$6,126 million worth of farm commodities exported during

the corresponding period of fiscal 1966.

On the increase during fiscal 1967 were exports of cotton, tobacco, and oilseeds and products.

During July-May of fiscal 1967, cotton exports, at 4.2 million bales, were up 46 per cent from the same months of the previous fiscal year. July-April exports to Japan had risen substantially, surpassing those of the like months in fiscal 1966 by 57 per cent, or 387,000 bales.

U.S. exports of tobacco reached \$512 million during July-May of fiscal 1967, 38 per cent above the same period of the preceding fiscal year. The United Kingdom and West Germany continued to be our leading customers, demanding larger quantities of U.S. tobacco as a result of reduced imports from Rhodesia.

The value of U.S. exports of oilseeds and products, at \$1,139 million during July-May fiscal 1967, topped those of the previous fiscal year by 2 per cent. But though the value was up, the quantity of exports dropped. Soybean exports during July-May fiscal 1967 were down 4 per cent to 227 million bushels; exports of protein meal dipped 9 per cent to 2,391,000 short tons.

Exports of grains and animals and animal products during the first 11 months of fiscal 1967 were all lower than the corresponding period of fiscal 1966.

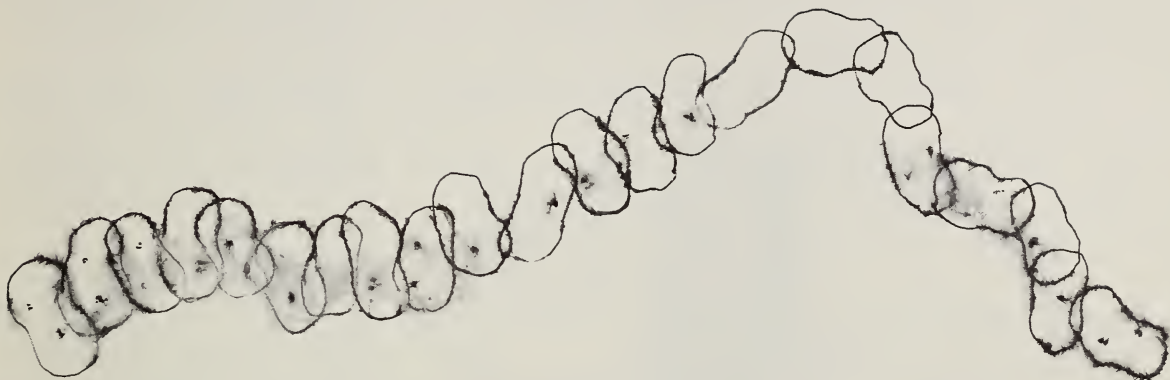
Total grain exports for July-May 1966/67 amounted to \$2,660 million, 5 per cent lower than during the same period a year earlier.

Exports of animals and animal products in July-May of fiscal 1967 were down about 10 per cent from the \$717 million for the same period of fiscal 1966.

Exports of fruits and vegetables were running nearly the same as in fiscal 1966. Exports of fruits had dropped slightly, but vegetable exports were up sufficiently to offset this decline.

Though the situation in the Middle East disrupted world trade to some extent during June, it appeared that fiscal 1967 would end as another banner year for farm products, with U.S. farm exports reaching a new record high.

# THE PERIPATETIC POTATO



*Still traveling briskly through the marketplace, although in new shapes and forms, the potato remains a perpetual staple in the diets of most of the population.*

Time was when a potato was a potato—unadorned, unprocessed and as such was a steady staple in our diets. But time has a way of changing things.

While our population increased by some three-fifths during the first half of this century, individual appetites for potatoes waned by 45 per cent. Thus, the potato industry in 1950 was just about where it was in 1900 in terms of total production.

Since then, there have been some changes made, and the total market is expanding. Production rose 19 per cent from 1950-54 to 1960-64.

Much of the credit goes to processing.

Before World War II, the only processed potatoes of any importance were potato chips, canned potatoes and potato flour. We ate less than two pounds of processed

potatoes per person, compared with 120 pounds of fresh potatoes.

Today, we eat less than 68 pounds of fresh potatoes. But the industry can take heart from the steady rise in consumption of processed potatoes. From 1950 to 1965, consumption climbed from 6.3 to 36 pounds per person.

This is particularly good news for areas such as the Red River Valley of North Dakota and Minnesota. The Valley is emerging as the center of potato production among the Central States.

The Valley's share of regional production increased from 11 per cent in 1924 to 41 per cent in 1964. But even these figures don't tell all the story. Most of the commercial production of the two states is now in the Valley.

Producers in the area find chips are still their largest outlet in the processing market with one-fourth of the Valley's potatoes going to these factories. The volume of potatoes sold for chips has, in fact, doubled in the last 10 years.

The factories manufacturing potato chips are, by and large,

located near consumer centers somewhat distant from the Valley. But the plants that handle the area's potatoes for freezing and dehydrating are generally located within the Valley.

Freezing and dehydrating operations developed more slowly in the Valley than they did in other regions, but in recent years the two techniques seem to have been catching on. During the 1962 crop year, for example, there were two plants in the Valley producing frozen french fries and five producing dehydrated flakes and slices.

In other ways, too, the Red River Valley typifies the general state of producing and marketing potatoes. More efficient storage and handling techniques are being adopted at a rapid pace. The larger retailers increasingly bypass terminal markets, buying directly from the shipping point.

And, as is true of most of the elements of the agricultural chain, the number of farms and marketing agencies is decreasing, while the size of the individual units is rising. (1)



## how does your city grow ?

*With land-use plans and improvement plans and its natural resources "all in a row," today's growing community, tended by a good planning board, is thriving.*

In the past, towns and communities just sort of grew up—like Topsy. Many folks tended to live on their own places with little thought as to the community's future growth.

Today there are more people, and they move at a more rapid pace. Towns have to grow, and grow quickly, to have room for everybody. Roads shoot out into the country, land is subdivided, then developed. The results are not always ideal.

To build a livable community takes a lot of coordinated planning. Above all, people must get together to figure out just what is happening—and how fast—and then decide how they want to shape their future.

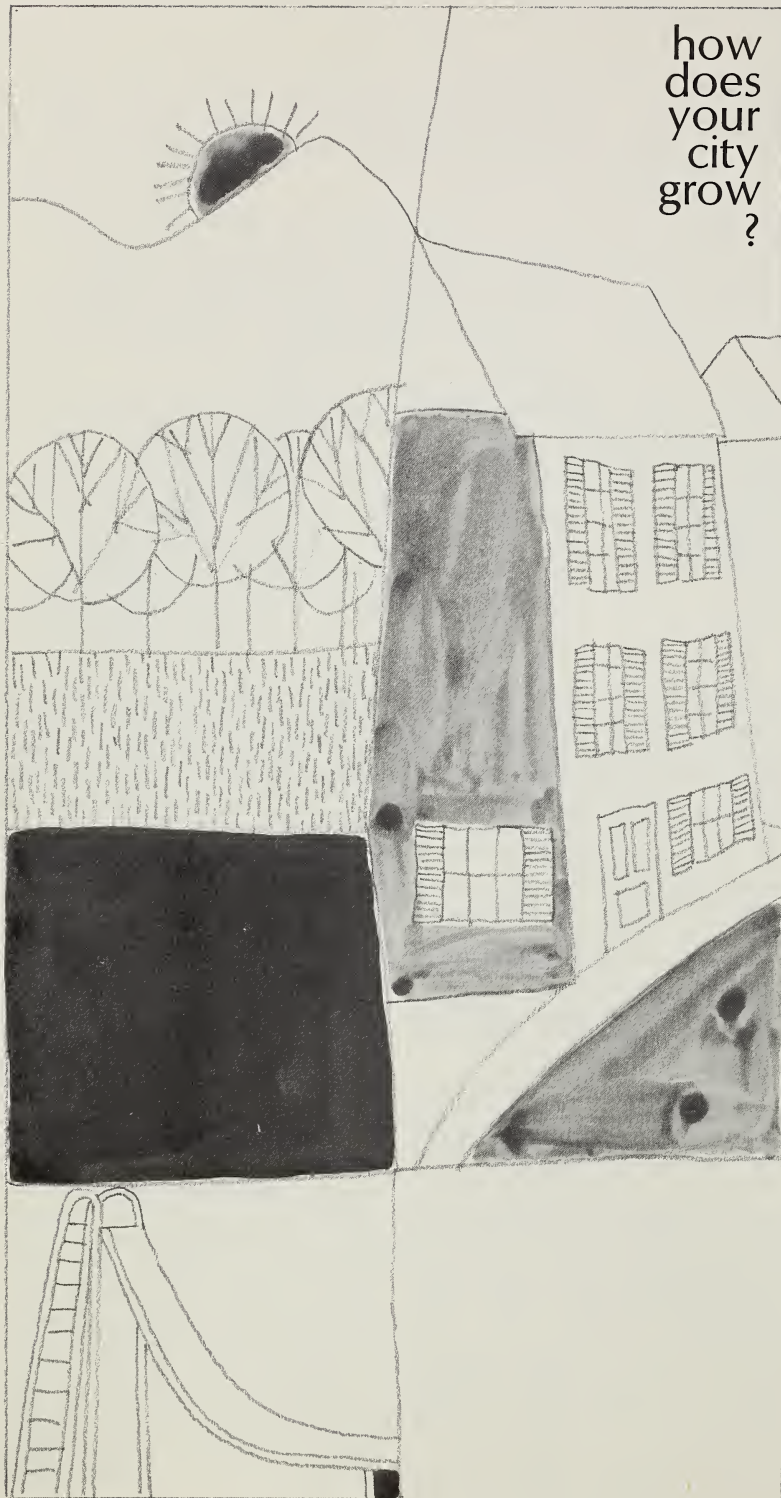
A recent ERS study outlines ways to develop a "comprehensive community plan."

The state legislature, according to the report, can authorize a county government to set up an official planning board. The board will use public funds to make a detailed study of the community, draft long-range plans and suggest measures to implement them.

This sort of planning is usually a three-step job. The steps are:

*Deciding on goals.* In general, goals will be to preserve what is best in the county, to develop what is good, and to oppose what is undesirable. Specifically, they may include some or all of the following:

- Increasing industrial production and employment;
- Reserving the best agricultural areas for farming;
- Protecting historical and scenic values and natural beauty;
- Conserving and developing natural resources;
- Developing attractive residential areas;





—Raising educational levels and providing adequate schools in safe locations;

—Improving road and highway systems and parking facilities;

—Providing convenient shopping areas.

*Gathering facts.* Facts are the stuff that plans are made of. Various questions, such as those which follow, will need to be answered:

—What sort of land is being considered? Does it have unusual characteristics? What sort of climate does the area have?

—What improvements have already been made in road systems and public services?

—Where are the business and industrial areas? What is the employment situation?

—Can the population be expected to grow? How much? How many children are in school? What about parks and playgrounds?

—What plans for physical development in the area have already been made by public agencies?

—What about natural resources and conservation problems? What agricultural resources are available?

*Making the plan.* Using all of the assembled information, the

planning board outlines specific suggestions for achieving the goals decided upon. They must make sure that each plan is financially possible and in harmony with all related plans. A typical plan includes:

—Economic, civic and social improvement plans such as proposed highways and roads, parking areas, sewage systems, water, power and gas facilities, police and fire protection; plans for fostering business, industrial and agricultural development, encouraging tourist trade and locating proposed schools and housing.

—Land-use plans outlining de-

## Statistics for Planning

Taking stock of present resources is generally the first step in planning for future needs.

Here are a few tips on some sources of agricultural data that can be drawn upon for preparing inventories of open country resources for use in comprehensive local planning.

The Census of Agriculture, taken every five years, is the chief source of information on agricultural land use and production. Of particular interest to local planning groups is the Census report "Volume I—Counties." Among other items, it includes statistics on: farm numbers, acreage and characteristics; cropland and other uses of land; land use practices; irrigation; value of farm products; and farms classified by tenure, size, type and economic class.

Other major censuses with statistics useful for developing local resource and economic inventories are listed in the Bureau of Census Catalog, published quarterly. Copies may be obtained from the Bureau of the Census, U.S. Department of Commerce, Washington, D.C. 20233.

Information on land areas, use of land by land-capability classes and needs for conservation treatment on land is available in state inventories of soil and water conservation needs. Copies of state reports, which include county data, can be obtained from state offices of the Soil Conservation Service.

Statistics on acreage, use, production or other characteristics of publicly-owned lands usually may be obtained from the federal or state agency managing the lands. Information on lands managed by the Bureau of Land Management may be obtained from their district offices. Some dis-

tricts have now completed classification of land for multiple use management or disposal—information that is particularly relevant for comprehensive local planning. Information on the use, acreage and other characteristics of land in national forests may be obtained from the forest supervisor.

Airphotos are an excellent tool for local planning but, for most purposes, require specialized skills for most effective use. Information on the use and availability of airphotos for planning is provided in "Uses of Airphotos for Rural and Urban Planning," AH-315. Copies may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at \$.30 each.

In addition to these general sources, there are a number of local sources of information. Local Agricultural Stabilization and Conservation Service records can be drawn upon to obtain annual county totals for such items as: crop acreage, yields and allotments; conservation practices and cost-sharing for conservation practices; and the number of farms and farms producing allotment crops.

Annual data on crop acreages, yields, production and value are also compiled by some State Agricultural Departments in cooperation with USDA's Statistical Reporting Service. This information, where available, can be obtained from the state government.

Frequently, information compiled locally for special uses (such as soil conservation districts) can be adapted or used directly in preparing the factual background for local plans. (3)

sirable future uses of the land for farming, forestry, recreation, industry, homes and proposed zoning.

—Suggestions for uses of natural resources, including measures for preventing soil erosion, fostering and protecting agriculture and obtaining the greatest possible benefits from water, forests and other natural resources.

To be successful, a comprehensive plan must be understood and supported by the citizens. Opportunities must be provided for open hearings where citizens can discuss planning with the board and vote on proposals. The final plans are usually presented to the county government for approval. (2)

### When Is a Farm Not a Farm? When It's Taxed as a Residential Subdivision

If you want to make a dedicated farmer unhappy:

—Sell the land around his farm at six or eight times its agricultural value;

—Build high-rise apartments, shopping centers and housing developments on it; and

—Slap the farmer with a higher tax bill based on the increased market value of his land.

This is precisely what is happening to many farmers on the fringe of large cities.

Recent estimates indicate that taxes on fringeland farms are more than five times those in rural areas distant from large metropolitan centers.

These high taxes have brought pleas for relief all over the country and a number of state legislatures have responded.

Now in use—or under consideration—are the following laws:

*Preferential assessment.* Lands used for agricultural purposes are assessed on the basis of use rather than on current market value. Opponents argue that this benefits speculators, who can get preferential assessments by conducting minimal farming operations, more

than it benefits bona fide farmers.

*Deferred taxes.* The assessor determines two values for the property—agricultural and full market. The farmer is taxed only on the agricultural value. But should he at any time sell or convert the land to non-agricultural use, he must pay the difference in back taxes. A few states have passed laws of this type but the results are still inconclusive.

Critics point out that this approach still leaves the community with no real voice in deciding where farming should continue. Any qualifying farmer who asks for it gets the deferred tax.

*Planning and zoning.* Communities, through their planning and zoning boards determine long-range land use and divide land into use-zones. Lands zoned for open space or farming are taxed on their agricultural value. Lands zoned residential or commercial are taxed higher.

Often, escalating land values create powerful pressures to exempt specific property from zoning regulations or to change the regulations altogether.

*Easement.* The local govern-

ment, either through purchase, donation or lease, obtains easements which regulate the way in which land can be developed. The minimum lot size might be specified or land could be restricted from sale for urban use.

A recent example of this has been the acquisition of scenic easements along the palisades of the Potomac in Washington, D.C. by the federal government. (4)

### 1966 Finds More Middle-Aged People On the Farm Than in Earlier Years

Farm people are older than they used to be. At the beginning of the decade 30 per cent of all farm people were 45 years old or over; by 1966 this proportion had increased to 35 per cent.

The leaves of the calendar turn no faster down on the farm. But the wheels do—the wheels of the cars and busses taking many farm people off the farm, year in and year out.

About 11.6 million persons lived on U.S. farms in April 1966. That was 5.9 per cent of the total population.

Six years earlier there were 15.6 million farm residents. The rate of decline averaged 5 per cent a year.

Historically the farm population has been characterized by a considerably higher proportion of children under 14 years of age than the nonfarm population. However, continued migration from the farm by young adults of childbearing age, together with the lowered birth rate of recent years, has dropped the percentage of children under 14 years from 1960's 31.9 per cent to 28.8 per cent in 1966.

From 1960 to 1966, the number of farm adults 20 to 44 years of age declined more rapidly than the farm population as a whole. The heaviest decline, 37.9 per cent, occurred in the age group 25 to 34 years. Their numbers fell from 9.3 per cent to 7.8 per cent. (5)

#### The Rural Zone

When community planners have all their information at hand, allocations for future land use can be made.

Usually, rural zoning districts are divided into three main classes:

—The first permits all farming activities except hog farms for feeding garbage and offal. Farm and nonfarm residences, home occupations, schools, churches and other residential-type facilities are permitted.

—The second is similar to the first but has the added requirement of much larger minimum tract or lot sizes. Minimums of one to five acres are required to discourage subdivision and encourage agriculture.

—The third is exclusively agricultural with necessary public and semi-public uses. Minimum tracts run from ten to 80 acres. (6)





## COTTON COURSE: THE PACE IS FASTER

*The new lesson for an old fiber is that haste in the carding, along with changes in ginning, makes not for waste but for better performance of the yarn produced.*

Cylinders are going twice as fast. The flat speed is almost tripled.

No, not Indianapolis. The stepped-up pace is being found in the carding operation of some cotton mills.

But the mills do have something in common with the famed race-way. Speeders are winners.

It's a matter of which system pays off in quality and in output. Preliminary tests have revealed significant improvement in processing performance and yarn quality from use of crusher rolls and from high-production carding. But apart from differences in waste, the effects of limited variations in ginning treatments

are too small to have economic significance.

These are the indications of a test of 36 bales of Mississippi Delta cotton harvested in 1965. The study was the work of specialists in the Agricultural Research Service and the Economic Research Service.

Some 18 lots were carded during the study under each of the following sets of conditions: Carded at 10 pounds per hour with crusher rolls on a conventional carding system; the same without crusher rolls; carded at 25 pounds per hour with crusher rolls on a high-production carding system; the same at 40 pounds per hour.

On the conventional system, cylinders turned at 170 r.p.m., licker-in speed was 455 r.p.m., flat speed was three inches per minute. The high-production system called for speeds of 305 r.p.m., 765 r.p.m., and 10 inches

per minute.

Both the more intense seed cotton cleaning arrangement and the lint cleaners removed a measurable amount of foreign matter. Use of lint cleaners tended to cause a higher nep count in card web than did ginning without lint cleaners.

With a good control of lint moisture during ginning and a high micronaire reading, fiber breakage was kept to a minimum during ginning.

There were, however, noticeable differences in the way the cotton performed in processing and in the quality of the yarn when the conventional system and the high-production carding system were compared. The advantages were all on the side of the high-production system.

Spinning-end breakage on stock from the conventional carding system was almost twice that of the high-production system.



But there were only small differences in performance and yarn quality at the two rates of carding.

True, more waste was removed by carding at the slower rate, but this didn't result in better spinning performance or a higher quality of yarn. And the interaction of carding rate and other treatments was not appreciable.

Another finding was that the grade differences in the study, though wide, showed little relationship to processing performance or to the yarn quality. Trash, one might infer, is more important in the eyes of the grader than it is in the actual performance of the fiber.

Some suggestions from the study:

—Card crusher rolls help reduce end breakage, lower the cost of processing and result in a better quality yarn.

—Changing from a conventional system to high-production carding with crusher rolls, can result in better spinning performance, reduced processing costs, and better yarn quality.

—There is no apparent damage to the processing performance or the yarn quality when the carding rates are stepped up on the high-production system with crusher rolls.

—Fiber breakage from gin cleaning can be kept to a minimum with careful control of lint moisture content during the ginning. (7)

## How To Get Milk Through Production Bottlenecks: A Dairy Industry Problem

How much milk would a milk processor process if he had all the milk he could process?

Probably more than he is processing today, if a study of 83 Minnesota dairy manufacturing concerns is representative.

The study, covering the year 1963, grouped the dairies by size and included a separate group of

manufacturers of special products (primarily cheese and miscellaneous dry milk products).

Average use of facilities by all plants ranged from 91 per cent of capacity on days of peak milk receipts to only 36 per cent on low days.

Only the special products group reported near maximum use of facilities on the peak day. But their low day use dropped to 32 per cent of capacity, slightly below the average of the others.

Milk plant managers most often mentioned the spray dryer used in producing powdered milk as a limitation to increased plant production. The dryer, a more expensive piece of machinery than butter churns or cheese vats, was used at an average of 98 per cent of capacity on the peak day by plants producing powdered milk.

Milk storage capacity, cream separators, churns, cheese vats and refrigeration were also listed as items of limitation.

On the average, small plants and large plants differed little in lack of capacity usage on slack days, but larger plants were able to use a larger proportion of plant capacity on peak days.

This is partially because small plants could afford only one shift of labor year 'round, thus were forced to operate 10 hours or less on the peak day. Larger plants, with as many as 3 shifts in the flush season, operated about 20 hours per day.

In an effort to overcome the seasonality of the milk business, the larger companies have succeeded to some extent in lengthening their peak milk production periods and shortening their slack periods.

Because they are bigger, these companies are able to attract the larger milk suppliers who, in turn, are more interested in maintaining uniform production throughout the year. The larger dairies also purchase milk from the smaller ones during the slack period.

Clean-up—another important factor in efficiency—is a constant with each plant. Milk processing equipment, whether used 1 hour or 20 hours a day, requires the same amount of cleaning time. Small plants allotted 2 hours a day for clean-up. Larger plants and those operating dryers and cheese processing equipment required 4 hours per day for cleaning.

One way managers step up plant production during the flush season is to run equipment longer between clean-ups. Instead of operating 20 hours and shutting down 4 hours for cleaning, for example, a larger plant may run 24 or more hours before clean-up.

Diversification—that is, manufacturing other dried milk products, cheeses and combination products as well as a single product or a joint product such as butter and nonfat dry milk—was discounted by most managers as a means of increasing production efficiency.

Some pointed out the difficulty of getting the board of directors or the cooperative membership of the dairy to change a well established organization.

Others felt investment in equipment needed to diversify was too much for profitable conversion. Lack of labor skills, chance of losing market outlets and lack of necessary volume were other reasons for not diversifying.

Managers of small plants pointed out that it would be irrational for them to increase the number of products they produce when the volume of milk they get even on peak days isn't enough to use existing equipment at maximum capacity.

Admittedly it is costly to maintain and operate plant equipment which is only partially used. But there is one saving feature: Facilities are always readily available for the manufacture of dairy products on an emergency basis when more capacity is needed immediately. (8)

## Old Fashioned As a Hand Crank, But Ice Cream Finds New Ways To Sell

—Ice cream takes the cake as the most competitive of all dairy products. And, since World War II, turning out ice cream has become a highly automated process.

Factory-packed half gallons have largely supplanted hand-dipped quarts and pints. Supermarkets and dairy stores use ice cream as price features, taking relatively low margins, offering the public frequent specials, using different brand names.

Innovation and competition have helped cut the farm-to-retail price spread for ice cream from 60.9 cents per half-gallon in 1951 to 55.3 cents in 1966.

Margarine was the only other food, among the 29 for which the Department of Agriculture has comparable data, to show a price decline. And only one other food—frozen orange juice concentrate, held the cost of marketing steady. The cost of marketing the other foods rose, with an average increase in farm-to-retail margins of 32 per cent.

—American cheese goes right on winning friends. Sales have been climbing steadily, even while retail prices have marched onward and upward.

The farm-to-retail spread (the marketing margin) has widened by 59 per cent since 1949, the earliest year for base data. Increased costs haven't been offset by any substantial improvement in processing, distribution or in retail competition. And retailers rarely put cheese on the list of specials for the week.

—Since the discovery during World War II that milk could be delivered to homes every other day, the ways of home delivery have changed little, and the farm-to-consumer spread rose 62 per cent from 1947-49 to 1966.

Methods of selling milk have been a little more progressive at the retail store, and some of the

improvements have been passed along to the customer.

The farm-to-retail spread on store-bought milk climbed only 52 per cent over the 1947-49 level. By 1966, the average store price of a half gallon of milk was 5.7 cents less than home delivered milk. The stores had only a 2.5 cent edge in 1947-49.

The ways of handling butter and evaporated milk have changed little in the postwar years. Both products have lost consumer favor while substitutes have captured much of their market.

In 1966, the farm-to-retail price spread for butter had increased 45 per cent over 1947-49 levels, for evaporated milk 34 per cent.

—By and large, the farm-to-retail marketing spreads for the various dairy products have reflected the degree of technical progress and retail competition since the war.

The spreads also offer a fair comparison of the costs of processing, packaging, and handling the various products.

Butter, for example, has the least expensive process and the lowest marketing spread. Ice cream, using other ingredients, requiring expensive refrigeration equipment, has the highest farm-to-retail spread.

In between, are evaporated milk—expensive to process but cheap to handle—and bottled milk—costly to bottle and distribute. (9)

## Home Delivery of Milk Gets a Boost From Returnable Plastic Containers

The Concerto for Mismatched Milk Bottles may soon have its final performance.

With new returnable plastic half-gallon containers, milkmen in the Pacific Northwest no longer have to worry about keeping their bottles quiet in the early hours of the morning.

And prospects for home delivery of milk all over the country

have been given a new lease on life.

Experience to date indicates the lightweight, returnable containers are cheaper than previous containers used and virtually indestructible.

The bottles are typical of the new look in home delivery of milk—and the new way of looking at this method of distribution. Determined efforts to cut costs of delivery are making it possible for the dairies to price their milk competitively with the local supermarkets.

Already a hit in the Northwest, the returnable plastic bottles seem certain of an important job in stimulating home delivery of milk throughout the country in the next few years.

Now, if they can only do something about the neighbors' barking dogs. . . . (10)

## Products Travel Domestic Route When Agriculture Seeks a Foreign Market

When grain goes abroad, the domestic marketing system has a big moving job on its hands.

Nearly two-thirds of the wheat sold from farms, for instance, is exported. Nearly half of the grain sorghums, two-fifths of the soybeans and a third of the corn sales from farms are for export.

Railroads accounted for about three-fourths of the inspected grain and soybean receipts at principal markets in fiscal year 1965/66. Barges carried about 15 per cent and motor carriers hauled the remaining 10 per cent.

Before the mid-1940's, the railroads carried nearly all the grain slated for the export markets. But in the decade up to the late 1950's, truck and barge transportation were able to take on an increasing volume of the traffic.

Since then, however, rail freight rates have been trending downward, and the railroads have been making themselves more competitive with the other carriers. (11)



## OUR EXPORT TURNSTILE... CANADA

*North-of-the-border ports serve as transfer points for Midwest grain and soybean shipments on "second leg" of export trip from Great Lakes to overseas markets.*

Ask any dockhand in Montreal. If he's unloading Spanish olives or Caspian caviar the destination is probably Expo 67.

But if it's North Dakota wheat, Illinois corn, or Ohio soybeans, the final destination may be Europe, Japan, or possibly India.

The Canadian port in this case is just a transfer point for U.S. farm products on their way to overseas markets.

They may stay at the port only a few hours or they may lie over several months in storage before they are transhipped to a third country.

Montreal is only one of eight Canadian ports used as transshipping points for a big volume of

Midwest farm exports moving out from Great Lakes ports since the St. Lawrence Seaway opened eight years ago.

Other Canadian port facilities we use in transit are Baie Comeau, Three Rivers, Quebec City, Sorel, Prescott, Halifax and St. John. All but the last two are on the St. Lawrence Seaway.

Over \$850 million worth of U.S. grains and oilseeds alone have been transshipped through Canada to other countries in the 1959-1966 period. This has included corn (\$347 million), soybeans (\$255 million), wheat (\$218 million), barley (\$26 million) and smaller quantities of rye, oats and flaxseed.

These shipments have averaged 38 per cent of total grains and oilseeds exported out of Duluth, Superior, Chicago, Toledo and our other Great Lakes ports. The rest of the Lakes exports move directly to overseas destinations.



Altogether, grain and soybean exports from the Great Lakes ports account for about 16 per cent of the U.S. export total for these commodities.

Other commodities—such as poultry, lard and tallow—also go overseas via the Seaway. The volume, however, does not compare with the corn, wheat and soybeans that are major Midwest crops.

Most of the intransit shipments go to Western Europe.

The six countries of the European Economic Community (EEC) are the biggest customers, taking \$313 million worth of grains and oilseeds between 1959 and 1966.

European Free Trade Association (EFTA) countries received \$224 million worth.

Outside these trade groups major destinations have been Spain (\$56 million) and Japan (\$40 million).

Let's follow a shipment of



**U.S. GRAINS AND SOYBEANS** exported from the Great Lakes through Canada to third countries totaled \$140 million in 1966. Corn was the leader at 37 million bushels worth \$51.1 million, followed by soybeans

(15 million bushels valued at \$46.7 million) and wheat (19.5 million bushels worth \$36.5 million). The rest was oats and barley—most of it for the Netherlands. Major destinations of leaders in 1966 were:

Destination	Wheat		Corn		Soybeans	
	1,000 bushels	1,000 dollars	1,000 bushels	1,000 dollars	1,000 bushels	1,000 dollars
European Economic Community:						
Belgium-Luxembourg	227	425	1,226	1,695	—	—
France	1,001	1,876	—	—	120	379
Italy	402	754	3,405	4,707	2,455	7,762
Netherlands	3,239	6,071	13,108	18,122	3,861	12,207
West Germany	—	—	1,978	2,735	37	117
European Free Trade Association:						
Denmark	—	—	—	—	190	601
Norway	—	—	—	—	101	319
Portugal	396	742	400	533	—	—
United Kingdom	2,526	4,735	12,796	17,690	1,080	3,414
Other:						
Algeria	2,009	3,766	—	—	—	—
Egypt	1,686	3,160	—	—	—	—
India	5,764	10,804	—	—	—	—
Japan	—	—	173	239	3,562	11,261
Pakistan	1,568	2,939	—	—	—	—
Spain	669	1,254	3,419	4,727	3,017	9,538
Taiwan	—	—	—	—	355	1,122

wheat from North Dakota to Europe.

It goes by rail to Duluth (at a reduced rail rate because it's destined for export). The U.S. grain dealer who has bought the wheat has already sold it to a Rotterdam importer who plans to pick it up in Canada.

So the wheat goes by "laker" to a Canadian port on the Seaway. There it is held in an elevator complex, under bond, until transferred to an ocean-going vessel that will take it on to the Netherlands—either as a sole cargo or to "top off" a partial cargo.

The U.S. exporter retains title and pays handling and storage costs while the cargo is in Canada.

If an export doesn't reach the Canadian port until mid-December, it is not likely to be transshipped until the Seaway's 8½-month navigation season reopens, usually in early April. A small volume of exports, however, moves out in the off-season from ports nearest the ocean (Baie Comeau, for example).

When the wheat leaves Duluth it is recorded as an export to the Netherlands.

It's quite likely that it may again be transshipped from there to another country in Europe. But up to now, it has not been feasible to adjust U.S. export statistics to show ultimate destinations after a shipment has been delivered to its first foreign buyer.

This is why the Netherlands is the statistical destination for about two-thirds of grain and oil-

seed exports out of the Great Lakes to the EEC, though much of the grain may actually wind up elsewhere in Europe.

Often, too, Canada is listed as the country of destination for U.S. exports that are unloaded and stored there temporarily. When our exporter is not sure of the ultimate destination, he will list Canada as the country of destination. However, transshipments from bonded storage in Canada must be inspected. These inspection records provide a basis for adjustments in export statistics as published in USDA's Grain Market News.

Exports to Japan via Canada are often "topping off" cargoes. In these cases a Japanese ship has perhaps brought Canada a load of transistor radios, textiles and other items. If the return cargo isn't ready, it picks up an order of U.S. wheat or soybeans "on standby" rather than return half empty.

In the case of India, wheat shipped through Canada has usually been small quantities located next to the Seaway, thus making the route practical. (12)

### Foreign Spotlight

**JAPAN.** Under a long-term trade agreement signed with Bulgaria, Japan will import Bulgarian wheat, sunflower seed, raw cotton and raw silk, cheese and corn.

**CENTRAL AMERICA.** Trade last year among Central American Common Market countries rose a striking 30 per cent over 1965 to reach an estimated \$176 million. El Salvador remained the area's top trader. Costa Rica made the biggest proportional gain. Guatemala had the largest export balance. (Honduras and Nicaragua are the other members.) The trade upsurge is linked to elimination of almost all trade barriers over a 5-year period ending June 1966. (13)

## BEEF EATERS' CHOICE



*A 104-pound steak? That's about the size of our annual appetite for beef. It's taken a doubling of beef output and a tripling of "Choice" grade cuts to satisfy it.*

Beef eaters have never had it so good. And most often it's "Choice."

That's the grade of nearly 50 per cent of all the beef now coming off the nation's farms and feedlots.

While the beef industry has doubled its total output in the past 20 years, it has tripled its production of Choice grade beef.

Choice is just about tops in quality, surpassed only by Prime and followed by Good. Retail cuts, such as steaks and roasts, are mostly one of these grades.

Other USDA grades are Standard and Commercial (both popular for hamburgers and sometimes used for pot roasts and stews), and Utility, Canner and Cutter (usually converted to processed products).

Many housewives rely on the shield-shaped USDA grade marks to gauge how tender, juicy and flavorful cuts are likely to be.

Most beef consumers like Choice grade. It is not only of high quality but usually has less fat and costs less than Prime grade—which isn't stocked in quantity by many retail stores.

And so what the customer likes is what he is getting, and more and more of it.

The beef we ate last year—most of it in the top three grades—averaged out to a record, close to 104 pounds per person. This was a husky portion of our 170-pound per capita helping of all red meat.

Per capita beef supplies are 60 per cent bigger than they were in the mid-1940's—even more than the gain of 40 per cent in our population.

Beef consumption continues to rise. It was over a pound more per person in the first quarter of this year than last.

The demand for Choice quality

shows no signs of weakening either in the supermarket or at the steak house. So this grade will probably become even more predominant.

Consumer preference and rising incomes have, of course, encouraged the phenomenal increase in output of high quality beef. But supply could not keep up with demand if it were not for the big expansion of the cattle feeding industry.

The big poundage of top-grade beef cuts doesn't come from cattle that roam the range. It comes mainly from animals served highly nutritious diets in feedlots geared for maximum efficiency.

These feedlots produced the bulk of the top three grades of beef that made up 71 per cent of last year's total output: 4 per cent Prime, 49 per cent Choice, 18 per cent Good. However, much of the Prime beef (it appears mainly on deluxe restaurant menus) still comes from animals fed on the farm by owners who make a specialty of it. (14)



# recent publications

In response to requests from readers wishing to obtain recent publications and source material published through state experiment stations, we

are publishing a list of the experiment stations and their addresses. This list will be printed again in January.

STATE	CITY	ZIP CODE
ALABAMA	Auburn	36830
ALASKA	Palmer	99645
ARIZONA	Tucson	85721
ARKANSAS	Fayetteville	72701
CALIFORNIA	Berkeley	94720
	(317 University Hall	
	2200 University Ave.)	
	Davis	95616
	Los Angeles	90024
	Riverside	92502
	(Citrus Research	
	Center)	
COLORADO	Fort Collins	80521
CONNECTICUT	New Haven	06504
	(P. O. Box 1106)	
	Storrs	06268
DELAWARE	Newark	19711
FLORIDA	Gainesville	32601
GEORGIA	Athens	30601
	Experiment	30212
	Tifton	31794
HAWAII	Honolulu	96822
IDAHO	Moscow	83843
ILLINOIS	Urbana	61803
INDIANA	Lafayette	47907
IOWA	Ames	50010
KANSAS	Manhattan	66504
KENTUCKY	Lexington	40506
LOUISIANA	Baton Rouge	70803
	(Drawer E	
	University Station)	
MAINE	Orono	04473
MARYLAND	College Park	20742
MASSACHUSETTS	Amherst	01002
MICHIGAN	East Lansing	48823
MINNESOTA	St. Paul	55101
	(St. Paul Campus)	
MISSISSIPPI	State College	39762

STATE	CITY	ZIP CODE
MISSOURI	Columbia	65202
MONTANA	Bozeman	59715
NEBRASKA	Lincoln	68503
NEVADA	Reno	89507
NEW HAMPSHIRE	Durham	03824
NEW JERSEY	New Brunswick	08903
NEW MEXICO	University Park	88070
NEW YORK	Ithaca	14850
	(Cornell Station)	
	Geneva	14456
	(State Station)	
NORTH CAROLINA	Raleigh	27607
	(Box 5847)	
NORTH DAKOTA	Fargo	58103
	(State University	
	Station)	
OHIO	Columbus	43210
	(Ohio State University)	
	Wooster	44691
OKLAHOMA	Stillwater	74075
OREGON	Corvallis	97331
PENNSYLVANIA	University Park	16801
	(106 Armsby Building)	
PUERTO RICO	Rio Piedras	00927
RHODE ISLAND	Kingston	02881
SOUTH CAROLINA	Clemson	29631
SOUTH DAKOTA	Brookings	57007
TENNESSEE	Knoxville	37916
TEXAS	College Station	77843
UTAH	Logan	84321
VERMONT	Burlington	05401
VIRGINIA	Blacksburg	24061
WASHINGTON	Pullman	99163
WEST VIRGINIA	Morgantown	26506
WISCONSIN	Madison	53706
WYOMING	Laramie	82070
	(University Station	
	Box 3354)	

## Numbers in parentheses at end of stories refer to sources listed below:

1. J. K. Hanes and F. J. Smith, Red River Valley Potato Industry in Transition (M\*); 2. E. D. Solberg, Comprehensive Plans for Improving Rural Counties, Agri. Inf. Bul. No. 316 (P); 3. H. Hill (SM); 4. T. F. Hady, Taxation and Development on the Rural-Urban Fringe (S); 5. Economic Development Division, Farm Population, Series Census-ERS P-27 No. 37 (P); 6. E. D. Solberg, Zoning Fertile Soils for Farming in New York State (S); 7. P. E. LaFerney, R. A. Mullikin and C. S. Shaw, Spinning Quality of Cotton As Affected by Gin Cleaning, Card Crusher Rolls and Varying Carding Rates, Mississippi, 1965-66 Season, MRR-778 (P); 8. O. Kerchner, Utilization of Capacity in Minnesota Dairy Manufacturing Plants (M); 9. R. E. Freeman, Farm-Retail Price Spreads for Dairy Prod-

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Speech (S); published report (P); unpublished manuscript (M); special material (SM); \*State publications may be obtained only by writing to the experiment station or university cited.



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### Ah-choo!

Shake it. Grind it. Let the grains fall where they may.

They'll pile up to around 40 million pounds of pepper—black and white—worth about \$14 million. And that's what it takes to keep our U.S. pepper shakers filled for a year.

Considering how often everyone says, "Please pass the salt and pepper," it's surprising that we use only about three ounces of pepper per person annually.

Yet in usage and value, pepper tops the list of the 36 major spices and herbs that add flavor and savor to our daily diet. (Salt doesn't count because it is a mineral.)

All of our pepper is imported, mostly from India and Indonesia. But in recent years, Indonesian output has been slipping and Brazil has been coming up strong. Other producers are Sarawak, Ceylon, Cambodia and the Malagasy Republic.

Both black and white pepper are the dried fruit of the same climbing vine (piper nigrum).

The berries, or peppercorns, are sun-dried and as the hulls shrivel they blacken. Then, for white pepper, the outer hull is soaked and removed and only the seed is used, whole or ground. The whole berry is used for black pepper, so the ground form has both black and white particles.

Our U.S. food industry usually imports just the prepared berries or seeds and does its own grinding and packaging.

What about red pepper? It isn't even related. The trade calls it capsicum—the chili-type pepper from whose seeds it comes. (15)

# THE FARM INDEX

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